

Abstract

Method and apparatus for determining the minimum or maximum switching activity of a digital circuit

5

In order when designing a digital circuit to be able to determine the minimum or maximum switching activity for estimating the power consumption it is determined according to the invention on the basis of a model of the digital
10 circuit whether there is a disproving operational case, in which the switching activity is less than an estimated value (k) for the minimum switching activity or greater than an estimated value (k) for the maximum switching activity. If the existence of an appropriate disproving
15 operational case $(P(k))$ can be found, when determining the maximum switching activity the estimated value (k) is increased by one step size and when determining the minimum switching activity the estimated value (k) reduces. After a decrease or increase of the estimated value (k) the process
20 is repeated and in this way the actual value for the maximum or minimum switching activity of the digital circuit is determined iteratively. After an appropriate interruption condition the currently used estimated value (k) is employed as the measure for the minimum or maximum
25 switching activity. Based on the minimum or maximum switching activity on the one hand the minimum or maximum power consumption of the digital circuit can be determined or on the other hand further diagnostic functions can be carried out.

30

(Fig. 1)